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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,058	04/30/2001	Jay K.. Bass	10004190-1	4485

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EXAMINER

BAKER, MAURIE GARCIA

ART UNIT	PAPER NUMBER
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1639

DATE MAILED: 07/15/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/846,058

Applicant(s)

Bass et al

Examiner

Maurie G. Baker, Ph.D.

Art Unit

1639



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE THREE MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Apr 25, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above, claim(s) 10-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4 6) ☐ Other: _____

DETAILED ACTION

1. The Response filed April 25, 2003 (Paper No. 8) is acknowledged. No claims were amended, added or cancelled. Therefore, claims 1-26 are pending.

Election/Restriction

2. Applicant's election of Group I (claims 1-9) for examination with traverse in Paper 8 is noted. The traversal is addressed below.
3. Applicant argues that the distinctness of Groups I, II and II has not been set forth. The examiner respectfully disagrees. Paragraphs 3 and 4 of the Restriction Requirement clearly set forth the distinctness of the different claimed methods. These paragraphs are reiterated below; especially note paragraph 4.

3. *Groups I – V are different methods. Each of the methods is different because they use different steps, require different reagents and/or will produce different results. They therefore have different issues regarding patentability and enablement and represent patentably distinct subject matter. In the instant case, the methods of Groups I – III are drawn to fabricating arrays, while the methods of Groups IV & V are drawn to reading arrays. These are clearly different end results and require completely different steps.*

4. *The methods of Groups I – III are different from each other because the steps of the methods are different. Groups II and III require a "drawn substrate" that is not required by Group I and a different "placing" step (i.e. step (b)). Group III further requires specifics of the "placing" not required by the other two methods (i.e. steps (i) and (ii)). In the same vein, the methods of Groups IV & V are different from each other because the steps of the methods are different. The method of Group V in step (a) requires "determining an identity of a drawn direction of the substrate" that is not required in the method of Group IV and also a different "scanning" step (i.e. step (b)).*

4. Applicant also argues that the examiner has not established that a search burden exists. As also stated in the Restriction Requirement, the groups that describe these inventions each have different issues regarding patentability and enablement, and represent patentably distinct subject matter, which merits separate and burdensome searches. Art anticipating or rendering obvious each of the above-identified groups respectively would not necessarily anticipate or render obvious another group, because they are drawn to different inventions that have different distinguishing features and/or characteristics. The examiner also stated that the inventions have acquired a separate status in the art as shown by their divergent subject matter and would require different searches in the patent and non-patent databases and there is no expectation that the searches would be coextensive.

5. For these reasons, the restriction as indicated is deemed to be proper and is made FINAL.

6. Therefore, claims 10-26 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to non-elected inventions.

7. Thus, claims 1-9 are currently under examination.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a written description rejection.

To satisfy the written description requirement, an applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The instant claims recite a method including a step of “determining an identity of a first direction across the substrate surface along which the substrate surface has a higher height uniformity”. The present application describes only extremely limited examples of “determining an identity of a first direction across the substrate surface along which the substrate surface has a higher height uniformity”. Thus, applicant’s claimed scope represents only an invitation to experiment regarding “determining an identity of a first direction...” for any substrate by any method as one of ordinary skill could not guess, *a priori*, which method would work for which substrates and whether the identity could be adequately determined.

The above terminology without adequate description and/or exemplification of how the steps are to be carried out and *how they are*

interrelated to achieve the object of the invention, does constitute a written description problem in the instant case as it is completely unclear that applicant was in possession of the claimed genus. Applicant's claimed scope represents only an invitation to experiment regarding possible method steps. The language of the specification should describe the claimed invention so that one skilled in the art can recognize what is claimed. The disclosure must allow one skilled in the art to visualize or recognize the identity of the subject matter purportedly described. See also rejections under 35 U.S.C. 112, second paragraph below.

Therefore it is deemed that the disclosure is neither representative of the claimed genus, nor does it represent a substantial portion of the claimed genus and that there is not adequate support in the instant specification for the claimed genus or a substantial portion thereof.

10. Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for "determining an identity of a first direction across the substrate surface along which the substrate surface has a higher height uniformity" when the substrate is glass and the height uniformity is measured as thickness by refractive power measurement, does not reasonably provide enablement for "determining an identity of a first direction across the substrate surface..." for any substrate by any method. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

It is clear from applicant's specification how one might practice this invention for "determining an identity of a first direction across the substrate surface along which the substrate surface has a higher height uniformity" when the substrate is glass and the height uniformity is measured as thickness by refractive power measurement; however, there is insufficient guidance as to how to carry out the claimed method for "determining an identity of a first direction across the substrate surface..." for any substrate by any method. There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue". These factors include, but are not limited to:

- (1) the breadth of the claims;
- (2) the nature of the invention;
- (3) the state of the prior art;
- (4) the level of one of ordinary skill;
- (5) the level of predictability in the art;
- (6) the amount of direction provided by the inventor;
- (7) the existence of working examples; and
- (8) the quantity of experimentation needed to make or use the invention based on the content of the disclosure.

See *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

The breadth of the claims and the nature of the invention: Claim 1 simply states "determining an identity of a first direction across the substrate surface along which the substrate surface has a higher height uniformity". No limitations on the type of substrate or method of determination are given and, as such, this could read on a wide variety of substrates and methods. Such represents broad scope. See also rejections under 35 U.S.C. 112, second paragraph below. The state of

the prior art and the level of predictability in the art: Measurement of height uniformity for a surface was practiced in the art at the time of filing; however, the methods for doing such are highly dependent on the nature of the substrate being measured. It would not be at all predictable that one such method could be used for all substrates. Applicant's claims represent only an invitation to experiment on different substrates and different methods of measurement of height uniformity. The level of one of ordinary skill: The level of skill would be high, most likely at the Ph.D. level. However, such persons of ordinary skill in this art, *given its unpredictability*, would have to engage in undue (non-routine) experimentation to carry out the invention as claimed. The amount of direction provided by the inventor and the existence of working examples: Applicants have only provided examples of how carry out the claimed method using glass substrates and measuring the height uniformity as thickness by refractive power measurement. Further research would be necessary for "determining an identity of a first direction across the substrate surface..." for any substrate by any method as one of ordinary skill could not guess, *a priori*, which method would work for which substrates and whether the identity could be adequately determined. The quantity of experimentation needed to make or use the invention based on the content of the disclosure: The instant specification does not provide to one skilled in the art a reasonable amount of guidance with respect to the direction in which the experimentation should proceed in carrying out the full scope of the claimed method. Note that there must be sufficient disclosure, either through illustrative

examples or terminology, to teach those of ordinary skill how to make and use the invention as broadly as it is claimed. *In re Vaeck*, 947 F.2d 488, 496 & n.23, 20 USPQ2d 1438, 1445 & n.23 (Fed. Cir. 1991). Therefore, it is deemed that further research of an unpredictable nature would be necessary to make or use the invention as claimed. Thus, due to the inadequacies of the instant disclosure, one of ordinary skill would not have a reasonable expectation of success and the practice of the full scope of the invention would require undue experimentation.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. Claims 1 and 4 (and all claims dependent thereon) are incomplete. This is because the instant claims do not achieve the object of the invention and the interrelationships of steps are not set forth. This creates considerable confusion in the claims. First, the claims do not actually positively recite that an array of multiple features of different chemical moieties is produced. Second, and most importantly, the interrelationships of the method steps are not set forth. The claims omit essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: (1) the method of determination of

the directions and (2) the method of placement (“so as to provide features thereon along rows more closely aligned with the first direction than the second direction”).

B. Claims 1 and 4 (and all claims dependent thereon) recite “higher height uniformity”. Although this terminology is somewhat defined in the instant specification, it is still deemed to render the claims indefinite. The terminology “higher height uniformity” is relative, rendering the claim indefinite. The terminology is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is completely unclear how much higher the height uniformity must be necessary to meet the limitations of the claim.


Status of Claims/Conclusion

13. No claims are allowed.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maurie Garcia Baker, Ph.D. whose telephone number is (703) 308-0065. The examiner is on an increased flextime schedule but can normally be reached on Monday-Thursday and alternate Fridays from 9:30 to 7:00.

15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew J. Wang, can be reached at (703) 306-3217. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4242. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Maurie Garcia Baker, Ph.D.
July 14, 2003



MAURIE GARCIA BAKER PH.D
PRIMARY EXAMINER